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THE EXECUTIVE DIRECTOR
OFFICE OF THE FEDERAL REGISTER
WASHINGTON, D.C.

STANDARD

Dimensions of Unitized Microfilm Carriers and Apertures (Aperture, Camera, Copy and Image Cards)

Approved As

American National Standards Institute (ANSI) Standard Report

July 16, 1996

ANSI/AIIM MS41-1996

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AIIM
ASSOCIATION FOR INFORMATION AND IMAGE MANAGEMENT INTERNATIONAL

ANSI/AIIM MS41-1996

Standard for Information and Image Management —

Dimensions of Unitized Microfilm Carriers and Apertures (Aperture, Camera, Copy, and Image Cards)

Association for Information and Image Management International

Abstract:

This standard specifies the dimensions and location of the aperture and carrier for aperture, camera, copy, and image cards.

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Foreword (This foreword is not a part of the American National Standard for Information and Image Management — Dimensions of Unitized Microfilm Carriers and Apertures (Aperture, Camera, Copy, and Image Cards), ANSI/AIIM MS41-1996.)

ANSI/AIIM MS41-1996 is a replacement for ANSI/AIIM MS41-1988.

MS41 is one in a group of industry, international, federal government, and military publications associated with microfilm carriers, tabulating cards, and non-tabulating cards (military & commercial). It is not the intent of MS41 to promote any card medium or carrier construction method.

Metric dimensions used in MS41 are mathematical conversions of the actual inch-pound unit (requirement). The inch-pound requirement is shown in parenthesis. Some of the metric dimensions may not be identical in ISO standards where the metric dimension is rounded off to the nearest whole number.

The aperture location and the buildup location illustrated in the figures are representative, that is, not drawn to scale.

Suggestions for changes or improvements to this standard are welcome and should be sent to Chair, AIIM Standards Board, Association for Information and Image Management International, 1100 Wayne Avenue, Suite 1100, Silver Spring, Maryland 20910-5603.

At the time of approval, the AIIM Standards Board had the following members:

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This standard was originally approved by the AIIM Committee C7. C7 has since been combined with C4 and C11 to form C23, Micrographics Technologies. C23 had the following members at the time it approved this revision:

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American National Standard for Information and Image Management —

Dimensions of Unitized Microfilm Carriers and Apertures (Aperture, Camera, Copy, and Image Cards) ANSI/AIIM MS41-1996

1 Scope and purpose

1.1 Scope

To specify the location and buildup dimensions of the microfilm carrier and the location and dimensions of the aperture. Product media are an 80-column tabulating card and a non-tabulating A6 aperture card. The aperture sizes are designated Tab C, Tab D, Tab E, and Tab F. The Tab D size is most commonly used.

1.2 Purpose

The intent of this standard is to help those who manufacture cards, process cards, or use processed cards. This standard provides

— card classifications

— card paper requirements

— card sizes

— microfilm carrier construction methods

— card handling precautions

2 Normative References

All standards publications are subject to revision. When the following documents are superseded by an approved revision, that revision may apply.

2.1 Referenced American national standards

ANSI/AIIM MS9-1987 (A1996), Method for measuring thickness of buildup area on unitized microfilm carriers (Aperture, camera, copy, and image cards).

ANSI/AIIM MS10-1987, (R1993) Method for determining adhesion of protection sheet to aperture adhesive of unitized microfilm carrier (Aperture card).

ANSI/AIIM MS32-1996, Microrecording of engineering source documents on 35 mm microfilm.

ANSI X3.11-1990, General purpose paper cards for information processing.

2.2 Other referenced standards

ISO 216-1975, Writing paper and certain classes of printed matter — Trimmed sizes — A and B series.

ISO 3272/3-1975, Microcopying of technical drawings and other drawing office documents — Part 3: Unitized 35 mm microfilm carriers.

2.3 Referenced publications

ANSI/AIIM TR2-1992, Technical report for information and image management — Glossary of imaging technology.

ANSI X3.21-1967 (R1991), Rectangular holes in twelve-row punched cards.

MIL-M-9868E, Military Specification — Microfilming of engineering data, 35 mm, requirements for distribution. 01-Jun-95

MIL-M-38761B, Military Specification — Microfilming and photographing of engineering/technical data and related documents, requirements. 01-Jun-95

G-C-116F(3), Federal specification for cards, tabulating. 11-Apr-94

MIL-C-9949(4), Military Specification — Cards, copy. 24-Apr-92

2.4 Related publications

MIL-STD-804C, Military Standard — Formats and coding of aperture cards, camera, copy, and tabulating cards. 01-Jun-95

MIL-C-9877B(2), Military Specification — Cards, aperture. 01-Jun-95

NOTE: The AIIM, ANSI, and ISO publications can be purchased from AIIM International, 1100 Wayne Avenue, Suite 1100, Silver Spring, MD 20910; or from ANSI, 11 West 42nd Street, 13th Floor, New York, NY 10036.

The military and federal publications can be purchased from Defense Printing Service, 700 Robbins Avenue, Building 4D, Philadelphia, PA, 19111-5094.

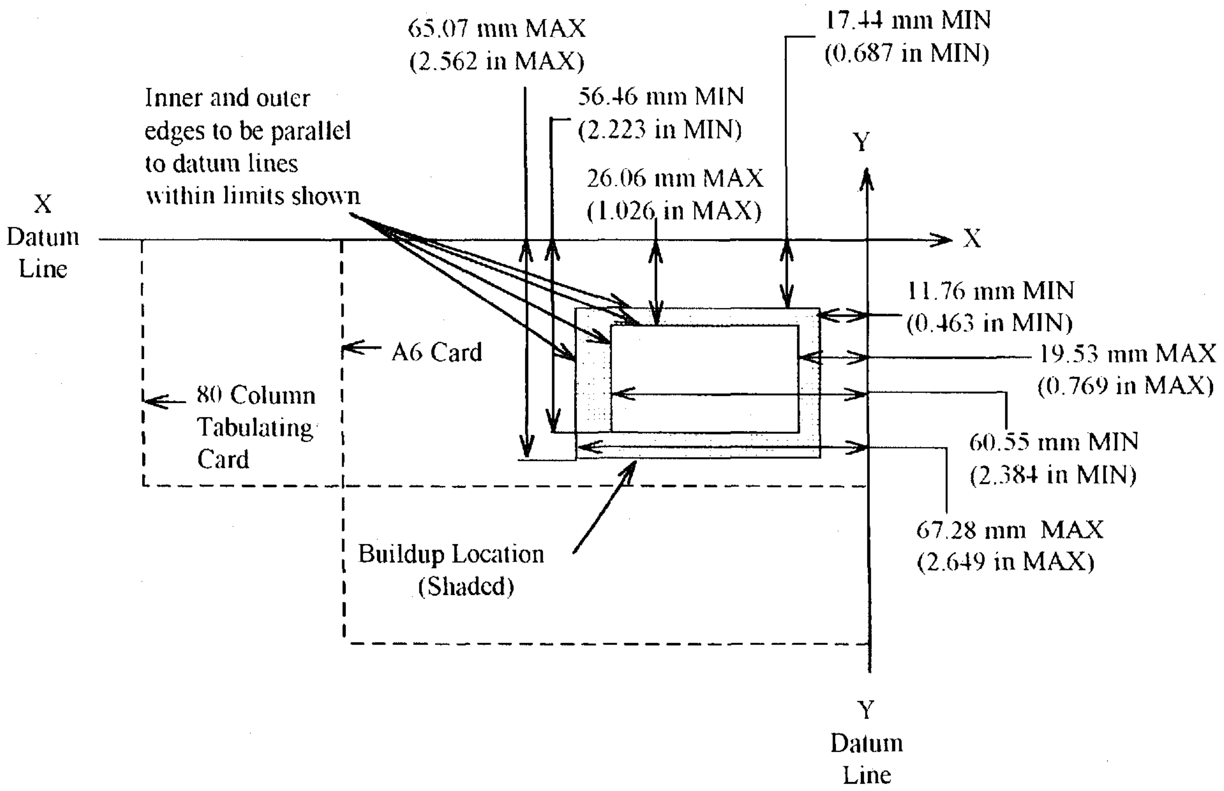

Figure 2 — Tab D buildup location and dimensions

4 Requirements

4.1 Materials

4.1.1 Card stock

Paper requirements for the 80-column tabulating card are specified in ANSI X3.11. The card's top and bottom horizontal edges may also be coated with a mixture of 25 percent vinyl acetate and 75 percent toluol or an equivalent substance.

NOTE: Additional information on paper stock can be found in Federal Specification, G-C-116F(2) and additional information on coating characteristics can be found in Military Specification, MIL-M-38761A.

4.1.2 Microfilm carrier

Material used to hold microfilm in the aperture of either an 80-column tabulating card (aperture, camera, copy, and image), or a non-tabulating card (A6 aperture card). When the material is bonding tape, the adhesion characteristics of ANSI/AIIM MS10 apply.

4.1.3 Protection sheet

A removable piece of glassine or equivalent material is used as a protective sheet. For an unprocessed 80-column aperture card, the glassine protects the exposed adhesive of the bonding tape (Type I carrier) until a developed frame of silver microfilm is mounted in the aperture.

4.1.4 Protective pocket

A pocket created by a suspension-type microfilm holder (Type II carrier). When a developed frame of silver microfilm is inserted, the carrier material protects the microfilm.

Annex A
Recommendations
(Informative)

(This annex is not a part of American National Standard for Information and Image Management — Dimensions of Unitized Microfilm Carriers and Apertures (Aperture, Camera, Copy, and Image Cards), ANSI/AIIM MS41-1996.

(The following precautionary measures, clarifications, and illustrations are provided to help a user.)

1. A card and its microfilm are subject to wear, abrasion, and damage. For example, to avoid microfilm damage when keypunching an 80-column tabulating card, the keypunch device must be modified so no brushes or rollers come in contact with the microfilm (columns 53 through 76).

2. When mounting a frame of silver roll microfilm (particularly when the image size is equal to the maximum aperture size), pay close attention to the dimensions specified in Figure 2 to preclude encroachment on the bonding tape. Frame size dimensions are specified in ANSI/AIIM MS32 and MIL-M-9868E.

3. To avoid confusion, do not misinterpret or intermix the card classifications specified in 4.2.1, 4.2.2 and 4.2.3 with microfilm classifications. Microfilm classifications are specified in Military Specification, MIL-M-9868E.

4. To avoid confusion, it must be understood that the chemical and physical requirements of ANSI X3.11 and Federal Specification, G-C-116F(2) are identical, except for weight, size and sample quantity.

5. To avoid confusion when referring to an 80-column tabulating card (aperture, camera, copy, and image), the following clarifications are provided:

Aperture card — An unprocessed tabulating card whose aperture (rectangular hole) is designed for the subsequent mounting of a developed frame of Type I silver (camera or noncamera) microfilm. (*Furthermore, the expression "aperture card" is commonly used when referring to any tabulating or non-tabulating card (military or commercial), whether processed or unprocessed, that has an aperture. Do not confuse the popularity of the generic "aperture card" expression with the specific functional characteristics of an individual aperture card, camera card, copy card, and image card.)*

Camera card — An unprocessed tabulating card whose aperture contains undeveloped Type I silver camera microfilm. A camera card is designed for its film to be exposed and processed while in the aperture. Thus, camera cards can only be used with cameras capable of this process.

Copy card — An unprocessed tabulating card whose aperture usually contains undeveloped Type II diazo noncamera microfilm. A copy card's undeveloped diazo film is designed to be exposed and processed by contact printing in a card-to-card duplicating device (i.e., the emulsion layer of the undeveloped diazo film must be in direct contact with the emulsion layer of the developed film in the image card being copied).

Image card — A processed aperture card, camera card, or copy card. A processed card is keypunched (Hollerith information), has eye-readable (unaided) header information, and its aperture (rectangular hole) contains developed (imaged) microfilm (silver, diazo, or vesicular).

6. Because card's with a Tab C, Tab E, or Tab F size aperture are not commonly used, only the buildup location and dimensions of Tab D are illustrated in Figures A1, A2, and A3.

The Tab C, Tab E, and Tab F buildup locations are illustrated in Figures A1, A2, and A3.

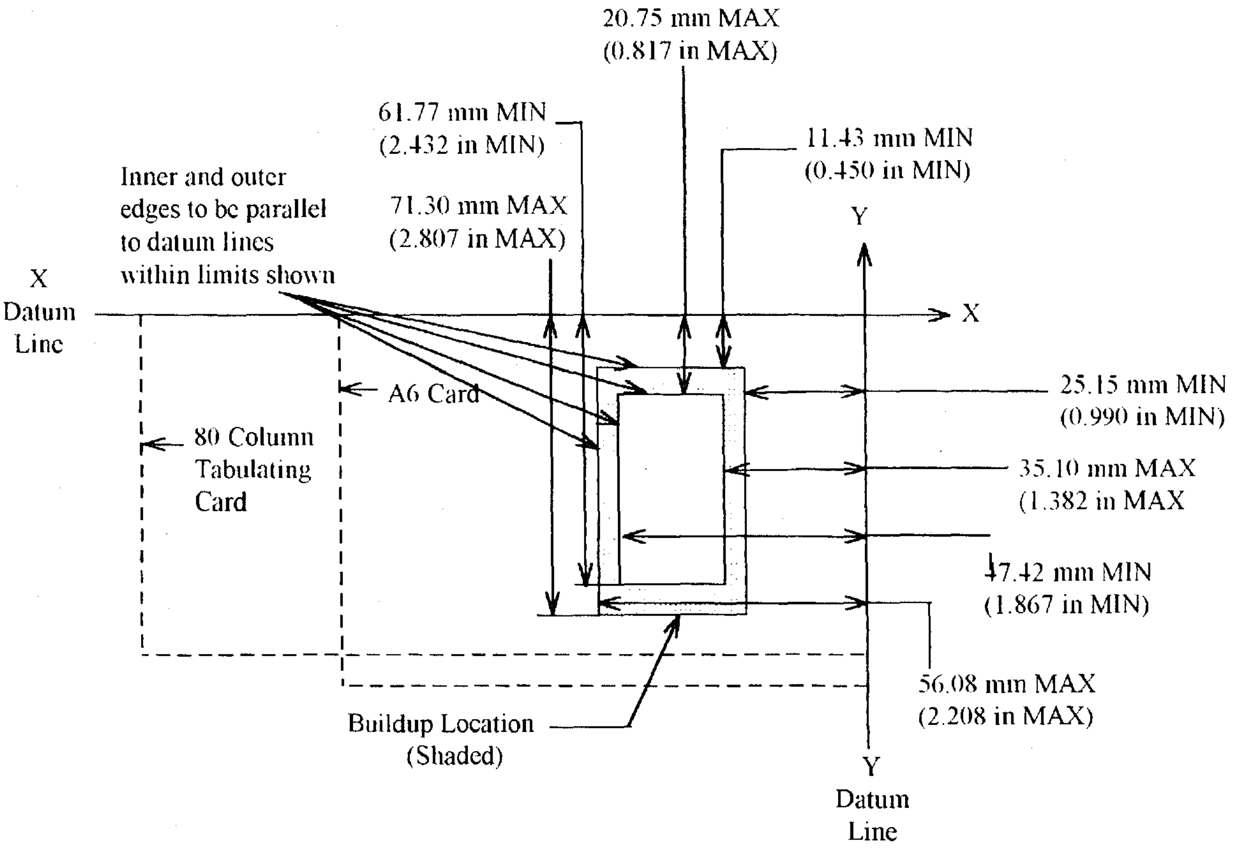

Figure A2 — Tab E buildup location and dimensions

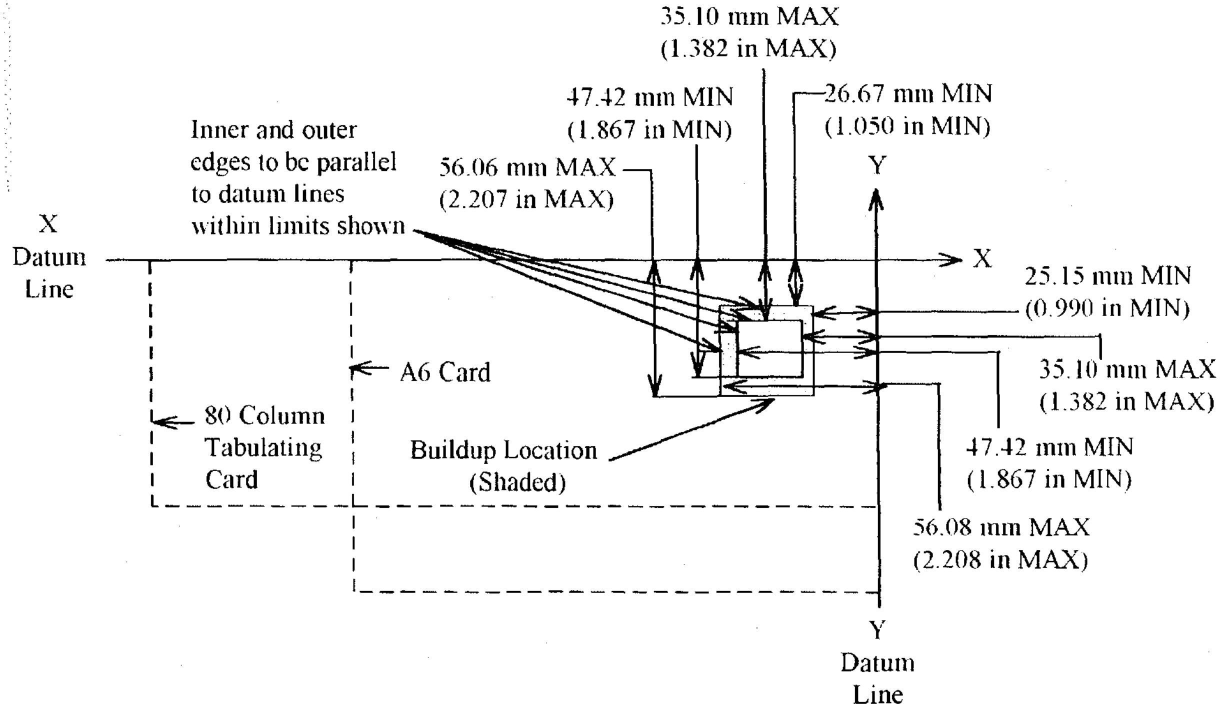

Figure A3 — Tab F buildup location and dimensions